UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ERNST HELD,
WOLFGANG SCHNEID and PETER ZWEIGLE

Appeal No. 2004-0868
Application 09/742,980

ON BRIEF

Before GARRIS, WARREN and OWENS, *Administrative Patent Judges.*

WARREN, *Administrative Patent Judge.*

Decision on Appeal and Opinion

We have carefully considered the record in this appeal under 35 U.S.C. § 134, including the opposing views of the examiner, in the answer, and appellants, in the brief and reply brief, and based on our review, find that we cannot sustain the rejection of appealed claims 1, 2, 4 and 5 under 35 U.S.C. § 102(e) as being anticipated by Hwang, and of appealed claims 3 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Hwang in view of Takase et al. (Takase).[1, 2]

It is well settled that in making out a *prima facie* case of anticipation, each and every element of the claimed invention, arranged as required by the claims, must be found in a single

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[1] A copy of the appealed claims appears in the appendix to the brief.

prior art reference, either expressly or under the principles of inherency. *See generally, In re King*, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986); *Lindemann Maschinenfabrik v. American Hoist and Derrick,* 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984). It is further well settled that in order to establish a *prima facie* case of obviousness under § 103(a), the examiner must show that some objective teaching, suggestion or motivation in the applied prior art taken as a whole and/or knowledge generally available to one of ordinary skill in this art would have led that person to the claimed invention as a whole, including each and every limitation of the claims arranged as required by the claims, without recourse to the teachings in appellants' disclosure. *See generally, In re Rouffet*, 149 F.3d 1350, 1358, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998); *Pro-Mold and Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629-30 (Fed. Cir. 1996); *In re Fritch*, 972 F.2d 1260, 1265-66, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992); *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Laskowski*, 871 F.2d 115, 10 USPQ2d 1397 (Fed. Cir. 1989); *In re Fine*, 837 F.2d 1071, 1074-76, 5 USPQ2d 1596, 1598-1600 (Fed. Cir. 1988). It is also well settled that a reference stands for all of the specific teachings thereof as well as the inferences one of ordinary skill in this art would have reasonably been expected to draw therefrom, *see In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968), presuming skill on the part of this person. *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

In order to review the examiner's application of prior art to appealed claims 1 and 3,[3] we must first interpret the language thereof by giving the claim terms their broadest reasonable interpretation in light of the written description in the specification, including the specification drawings, as it would be interpreted by one of ordinary skill in this art. *See, e.g., In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). The claim language at issue is

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[2] The examiner states that the grounds of rejection are set forth in the final action mailed December 17, 2002 (Paper No. 14). *See* answer, pages 2-4.

[3] Appellants state that "[f]or each ground of rejection . . . all claims will be treated as a single group" (brief, page 5). Thus, we decide this appeal based on appealed claims 1 and 3 as representative of the respective grounds of rejection. 37 CFR § 1.192(c)(7) (2002).

> the recess [of the mating connector] being dimensioned so that during an insertion process of the plug connector into the mating connector, the guide element [of the plug connector] is guided into the recess, and in an inserted state, the recess is set apart from the guide element.

The examiner takes the position that the claim language is satisfied if "the plug connector is movable . . . with regard to the mating connector when both are mated" which "is possible due to differences in diameter of the recess and the guiding member" (Paper No. 14, pages 2 and 3). Appellants contend that if the guide member is "fully within" the recess, it is "not set apart" therefrom (brief, page 6). In response, the examiner submits that

> [t]he phrase "the recess is set apart from the guide element" should be interpreted in [sic, the] sense that the respective elements are being kept separate (Heritage Dictionary, 4th Ed; Cambridge International Dictionary, 2nd Ed).
>
> Even being fully within the recess, the guide element can be set apart from the recess if its cross-sectional size is smaller than that of the recess with the given tolerance. This interpretation corresponds to the idea of the invention (Fig. 3 of the Application; [brief], page 4, lines 4-8) where the guide (8) is separated from walls of the recess (9). [Answer, page 3.]

With respect to this issue, we find that the specification would have disclosed to one of ordinary skill in this art that "guide elements [of plug connectors] . . . are rectangular in cross-section and . . . engage with recesses . . . in the mating connector" and that such "conventional guide elements also have a centering function" which presents a problem when the "plug connector . . . is only centered in the base of the mating connector" (page 1, line 8, to page 2, line 3). The solution to the problem proposed by appellants is to have "the recess . . . set apart from the guide element" such that the "centering" and "guide" functions are separated, that is,

> [a]fter ending the insertion process, while the plug connector is resting on the connector base, centering elements retain the plug connector in the correct position in the mating connector, and at the same time, the guide elements provide no further function. [*Id.*, page 2, lines 19-31.]

In one embodiment, the guide elements are "cam-like" and "glide in" the "guide-like recesses," wherein the "end position . . . [of] the recess . . . is dimensioned in such a way that the cam-like . . . guide element is no longer guided by the recess" and "centering elements engage and retain the connector in the correct position in the mating connector" (*id.*, page 2, line 33, to page 3, line 16).

This embodiment is illustrated in specification **Figs. 1 - 3** which are described as follows:

> While producing the plug-in connection, in which plug connector 2 is guided into mating connector 3 in the direction of an arrow 10, cam-like guide element 8 glides along recess 9 until plug-in contacts 6 are brought into engagement with mating plug-in contacts 7. The guidance of cam-like guide element 8 in recess 9 is subsequently released, in that the cross-section of recess 9, particularly in a region 11 which is also shown in the cross-section in Figure 3, is larger than the cross-section of guide element 8, so that cam-like guide element 8 is no longer immediately encircled by the walls of recess 9. When this position of plug connector 2 in mating connector 3 is reached, then in this exemplary embodiment, centering elements 12 shown in Figure 2 position plug connector 2 in mating connector 3. [Page 4, lines 12-25; *see also* brief, page 3, line 29, to page 4, lines 11.]

We observe that specification **Fig. 3** is "a section through a guide element according to Figure 1 along a line III-III" (specification, page 3, lines 33-34). While lower region **11** of recess **9** is shown in **Fig. 1** as having a larger diameter than the upper "guide" region of recess **9**, in **Fig. 3**, recess **9** has a constant cross-section that is larger than the constant cross-section of guide element **8** such that the latter "is no longer immediately encircled by the walls of" the former, with centering elements **12** providing the "centering function."

We determine that in either structure shown for recess **9** in specification **Figs. 1** and **3**, recess **9** is "dimensioned" such that guide element **8** "is guided into" recess **9** during insertion and, "in an inserted state," recess **9** "is set apart from" guide element **8** as required by the language of appealed claim 1. In other words, one of ordinary skill in this art would have interpreted the written description in the specification to disclose that guide element **8** is not encircled by the walls of and can move within recess **9**, in which respect, recess **9** does not serve to restrict the movement of guide element **8** therein, which would be the case if guide element **8** and recess **9** provide a "centering function" with respect to the mated connectors.

Accordingly, in considering the written description in the specification, including the specification figures, as interpreted by one of ordinary skill in this art and in light of the arguments advanced by the examiner and appellants, we interpret the phrase "the recess is set apart from the guide element" to mean that the guide element is separated from the recess at least to the extent that the guide element can move within the recess in the sense that the recess and the guide element do not provide a centering function. We are not persuaded otherwise by the

examiner's argument based on the cited dictionaries that the guide element should merely be "kept separate" from the recess, that is, a small difference in cross-sectional size would satisfy the claim. Indeed, the ordinary dictionary definition of the terms "set" and "apart," in context alone and together,[4] do not support the examiner's position.

Considering now the ground of rejection under § 102(e) over Hwang, it is apparent that the examiner is relying only on guiding rods or guide elements **24** in plug connector **20** and receiving passages or recesses **14** in mating connector **10** as shown in Hwang **FIGS. 1-4**, and cites Hwang col. 2, lines 46-48 in support of the proposition that the "plug connector is movable to [sic] with regard to the mating connector when both mated" (Paper No. 14, page 2; answer, page 4; second paragraph, second sentence). The passage of Hwang cited by the examiner reads as follows:

> Floatable means **30** is arranged [sic] the plug connector **20** such that when the plug connector **20** is moveable to the corresponding receptacle connector **10** [sic] when both are mated. [Col. 2, lines 46-48.]

Appellants submit that the passage cited by the examiner "is at best incoherent and ambiguous" and that "a more understandable description of the floating means" is found at col. 1, lines 46-53:

> Floatable means arranged at least on the first connector such that when the first (floatable) connector is mated to the corresponding second connector of the second substrate, the first (floatable) connector is moveable [sic] respect to the corresponding second connector to compensate any misalignment therebetween ensuring an electrical connection between the first and second connectors. [Brief, pages 6-7.]

Appellants argue that "the floating means, as disclosed in Hwang, allows the entire plug connector (20) to move or 'float' with respect to the substrate (41) of which the connector is attached so that both connectors can remain attached to one another when the associated substrates are not fully aligned. (See Hwang, FIG. 5; col. [2, ll.] 49-60)" (brief, page 7, lines 3-7).

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[4] "**apart** . . . **2. a.** Separately or at a distance in time, place of position . . . **4.** Separately or aside for a particular function or purpose . . . ;" "**set** . . . **1.** To put in a specified position; place . . . **–phrasal verbs.** . . . **set apart. 1.** To reserve for a specific use. . . ." *The American Heritage Dictionary, Second College Edition* 117, 1121-22 (Boston, Houghton Mifflin Company, 1982); *see also Webster's II New Riverside University Dictionary* 115, 1067 (Boston, The Riverside Publishing Company. 1984).

The examiner takes the position that

> both statements of Hwang suggest the same – the designed movement of the connectors in a direction perpendicular to a mating direction. According to Hwang, that movement is possible due to differences in diameter of the recess and the guiding member. [Paper No. 14, page 3; answer, page 3.]

With respect to appellants' argument in the brief, the examiner alleges with respect to the "movement of the plug connector (20) regarding substrate (41), that movement does not eliminate but complement the mutual movement of the plug and receptacle connectors when in mated position" (answer, page 3).

In the reply brief, appellants contend that the examiner has not established that the difference in diameter between receiving passages or recesses **14** and guiding rods or guide elements **24** of Hwang necessarily and inherently "make possible the movement between the first floatable connector and the corresponding connector," arguing that

> [w]hen read together, col. 1, lines 46-53, col. 2, lines 46-48 and 57-60 and Fig. 5 of Hwang support the conclusion that floatable means 30 allows the entire plug connector 20 to move or "float" with respect to the substrate 40 to which the connector 20 is attached, so that the plug 20 can be aligned with the receptacle connector 10 even if there is an offset between the plug connector 20 and the attached substrate 40. However, there is no reasonable interpretation of the disclosure of Hwang that would support the Examiner's conclusion that the difference in the diameters of the recess 14 and the guide 24 necessarily have to exit in view of the overall teachings of Hwang, thereby satisfying the limitation of claim 1 that "in an inserted state the recess is set apart from the guide element." [Pages 4-5; emphasis in original deleted.]

Upon carefully considering the disclosure of Hwang as a whole, we agree with appellants' position. We find that Hwang discloses that

> [t]he plug connector **20** includes a pair of guiding rods **24** on opposite ends of the mating portion **22** received in the corresponding receiving passage **14** of the receptacle connector **10**. Each guiding rod **24** includes a tapered tip **24a** extending over a top face **22a** of the mating portion **22**. By the cooperation of the tapered tip **24a** and the slanted edges **14a**, mating between the receptacle and plug connectors **10**, **20** along a front-to-back direction can be smoothly performed. [Col. 2, lines 32-40.]

We further find that one of ordinary skill in this art would not have found in this disclosure or in the protrusion of *tips* **24a** of guiding rods or guide elements **24** through the base of receptacle connector **10** when the guide rods are fully received in receiving passages or recesses **14** upon mating as shown in Hwang **FIG. 4** (*see* answer, page 3), any teaching that guiding rods or guide

elements **24** and receiving passages or recesses **14** are of such relative cross-sections that the same *can* move with respect to each other as if they are "set apart" as we have interpreted this claim term above. This person would have further found from col. 2, line 46, to col. 3, line 22, and **FIGS. 5** and **6** of Hwang that floatable means **30** does not include or involve in any respect guiding rods or guide elements **24** and receiving passages or recesses **14**, and these elements are not disclosed to play any role in floatable means **30** facilitating the free movement or floatability of plug connector **20** with respect to circuit board **40**, regardless of the relative positions of printed circuit boards **40** and **44** prior to mating.

Accordingly, we find as a matter of fact that the disclosure of Hwang with respect to guide rods **24** and receiving passages or recesses **14** as relied on by the examiner, does not disclose each and every element of the claimed invention, arranged as required by appealed independent claim 1, as we have interpreted the language thereof above, and by appealed dependent claims 2, 4 and 5, either expressly or under the principles of inherency, and thus, in the absence of a *prima facie* case of anticipation within the meaning of 35 U.S.C. § 102(e), we reverse this ground of rejection,

We also reverse the ground of rejection under 35 U.S.C. § 103(a) as a matter of law on the same factual findings, because, as appellants argue (brief, pages 9-10; reply brief, page 6), the examiner provides no additional scientific explanation or objective evidence from Takase which would cure the factual deficiencies of Hwang with respect to appealed dependent claims 3 and 6.

The examiner's decision is reversed.

Reversed

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